

IN THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the Application:

LISTING OF CLAIMS:

1. (Currently amended) A radio frequency receiver for use in a proximity detecting system, the radio frequency receiver comprising
at least one antenna coil operable to receive radio frequency signals;
tunable receiver circuitry arranged in operative association with the antenna coil and being arranged to modify the frequency at which radio signals are received by the radio frequency receiver;
a signal processor arranged to amplify and filter signals received by the radio frequency receiver; and
a processing system—~~is~~ arranged to receive radio signals amplified and filtered by the signal processor so as to evaluate a signal strength associated with each said antenna coil, the processing system being arranged to evaluate a distance between a radio frequency transmitter and the radio frequency receiver on the basis of evaluated signal strengths associated with radio signals received by the at least one antenna coil;
wherein the radio frequency receiver is operable to receive and process radio signals of frequencies between 100kHz and 10MHz.
2. (Original) A radio frequency receiver according to claim 1, including three antenna coils, wherein the tunable receiver circuitry is selectively arranged to cooperate with each said antenna coil.
3. (Original) A radio frequency receiver according to claim 2, wherein each antenna coil is positioned along an axis in a direction extending substantially perpendicular to that occupied by the other antenna coils.

4. (Previously presented) A radio frequency receiver according to claim 2, wherein, in a first operating condition, the receiver circuitry is arranged to select each of the three antenna coils in accordance with a specified selection procedure.

5. (Original) A radio frequency receiver according to claim 4, wherein the selection procedure comprises selecting each of the antenna coils sequentially.

6. (Currently amended) A radio frequency receiver according to claim 2, wherein the processing system is arranged to evaluate a distance between a the radio frequency transmitter and the radio frequency receiver on the basis of evaluated signal strengths associated with radio signals received by each antenna coil.

7. (Previously presented) A radio frequency receiver according to claim 4, wherein the receiver circuitry is arranged to operate in a second operating condition wherein none of the antenna coils is selected and the signal processor is arranged to amplify and filter radio signals in the second operating condition.

8. (Previously presented) A radio frequency receiver according to claim 7, wherein the processing system is arranged to use the filtered and amplified signals corresponding to the second operating condition to modify the signal strengths evaluated in the first operating condition.

9. (Original) A radio frequency receiver according to claim 8, wherein the signal processor is arranged to identify, within a time period, a sequence of frequencies in the amplified and filtered radio signals.

10. (Original) A radio frequency receiver according to claim 9, wherein the signal processor is adapted to identify correlation between filtered radio signals in order to identify a sequence of frequencies in the received signals.

11. (Previously presented) A radio frequency receiver according to claim 8, wherein the signal processor is arranged to identify a modulation pattern within the received radio signals and to compare the identified modulation pattern with a specified modulation pattern.

12. (Currently amended) Proximity detecting apparatus comprising a low radio frequency receiver ~~according to claim 1~~ and a low radio frequency transmitter, the low radio frequency receiver comprising:

at least one antenna coil operable to receive radio frequency signals;

tunable receiver circuitry arranged in operative association with the antenna coil and being arranged to modify the frequency at which radio signals are received by the low radio frequency receiver;

a signal processor arranged to amplify and filter signals received by the low radio frequency receiver; and

a processing system arranged to receive radio signals amplified and filtered by the signal processor so as to evaluate a signal strength associated with each said antenna coil, the processing system being arranged to evaluate a distance between the low radio frequency transmitter and the low radio frequency receiver on the basis of evaluated signal strengths associated with radio signals received by the at least one antenna coil;

wherein the low radio frequency receiver is operable to receive and process radio signals of frequencies between 100kHz and 10MHz, and

wherein the a low radio frequency transmitter is arranged to transmit radio signals of frequencies less than 10 MHz, and wherein the low radio frequency receiver is arranged to receive and process signals from said low radio frequency

transmitter so as to generate data indicative of a distance between said low radio frequency transmitter and low radio frequency receiver.

13. (Currently amended) Proximity detecting apparatus according to claim 12, including a further said low radio frequency transmitter, wherein said receiver antenna coils are arranged to receive first signals from the low radio frequency transmitter and second signals from said further low radio frequency transmitter.

14. (Original) Proximity detecting apparatus according to claim 13, wherein the processing system is arranged to access a function operable to output data indicative of a position in response to input indicative of signal strength received by the antenna coils, the processing system being arranged to input first and second signals to said function and to combine output indicative of first and second positions corresponding thereto so as to identify a position of the low radio frequency receiver.

15. (Currently amended) Proximity detecting apparatus comprising first and second low radio frequency receivers ~~according to claim 1~~, and a low radio frequency transmitter arranged to transmit radio signals of frequencies less than 10 MHz, wherein each of said first and second low radio frequency receivers comprises:

at least one antenna coil operable to receive radio frequency signals;

tunable receiver circuitry arranged in operative association with the antenna coil and being arranged to modify the frequency at which radio signals are received by the low radio frequency receiver;

a signal processor arranged to amplify and filter signals received by the low radio frequency receiver; and

a processing system arranged to receive radio signals amplified and filtered by the signal processor so as to evaluate a signal strength associated with each

said antenna coil, the processing system being arranged to evaluate a distance between the low radio frequency transmitter and the low radio frequency receiver on the basis of evaluated signal strengths associated with radio signals received by the at least one antenna coil;

wherein the low radio frequency receiver is operable to receive and process radio signals of frequencies between 100kHz and 10MHz, and

wherein each of the first and second low radio frequency receivers is arranged to receive and process signals transmitted from said low radio frequency transmitter and wherein the proximity detecting apparatus comprises means arranged to combine signals processed by said first and second low radio frequency receivers so as to generate data indicative of a position of said low radio frequency transmitter relative to said first and second low radio frequency receivers.

16. (Currently amended) A low frequency radio receiver for use in a proximity detecting system, the low radio frequency receiver comprising three antenna coils each being operable to receive radio frequency signals at frequencies less than 10 MHz; tunable receiver circuitry arranged in operative association with each coil and being arranged to modify the frequency at which signals are received by the low radio frequency receiver; signal processing means arranged to amplify and filter signals received by the low radio frequency receiver; and frequency sequence identifying means arranged to identify, within a time period, a sequence of frequencies in the amplified and filtered signals.

17. (Original) A low frequency radio receiver according to claim 16, wherein, in a first operating condition, the receiver circuitry is arranged to select each of the three antenna coils in accordance with a specified selection procedure.

18. (Original) A low frequency radio receiver according to claim 17,

wherein the selection procedure comprises selecting each of the antenna coils sequentially.

19. (Previously presented) A low frequency radio receiver according to claim 16, wherein the frequency sequence identifying means is arranged to correlate the filtered signals associated with at least one antenna coil in order to identify said sequence of frequencies.

20. (Previously presented) A low frequency radio receiver according to claim 17, wherein, for each frequency in the sequence, the receiver circuitry is arranged to operate in a second operating condition wherein none of the antenna coils is selected and the signal processor is arranged to amplify and filter signals corresponding to the second operating condition.

21. (Original) A low frequency radio receiver according to claim 20, wherein the processing system is arranged to use the filtered and amplified signals corresponding to the second operating condition to modify the signal strengths corresponding to the first operating condition.

22. (Currently amended) A low frequency radio receiver according to claim 16, including a processing system arranged to process filtered signals corresponding to the three antenna coils in accordance with a predetermined location determining algorithm so as to identify the position of a source of said radio signals received by the low radio frequency receiver.

23. (Currently amended) A low frequency radio receiver according to claim 16, wherein the processing system is integral with the low radio frequency receiver.

24 - 35. (Cancelled)